PAUL HOUSING AUTHORITY (PWS 5340015)
SOURCE WATER ASSESSMENT FINAL REPORT

April 3, 2002

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This assessment is based on a land use inventory of the designated assessment area, sensitivity factors associated with the wells, and aquifer characteristics.

This report, *Source Water Assessment for the Paul Housing Authority, Paul, Idaho* describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The Paul Housing Authority drinking water system consists of one ground water well source. The well has a high susceptibility to microbial contamination, and a moderate susceptibility to inorganic, volatile organic, and synthetic organic contamination. The microbial contamination rated high automatically due to the detection of total coliform at the wellhead. The extensive irrigated agricultural land use of the area and the limited number of potential contaminant sources within the delineation contributed to the overall susceptibility of the well.

The inorganic contaminants (IOCs) arsenic and fluoride were detected in water samples collected from the wellhead at concentrations below Maximum Contaminant Levels (MCLs). Nitrate levels in the wells have been consistently below 2.5 milligrams per liter (mg/L). The MCL for nitrate is 10 mg/L. No volatile organic contaminants (VOCs) or synthetic organic contaminants (SOCs) have been detected in the wells. Total coliform bacteria were detected at the wellhead and in the distribution system in October 1995.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources. If the system should need to expand in the future, new well sites should be located in areas with as few potential sources of contamination as possible, and the site should be reserved and protected for this specific use.

For the Paul Housing Authority, drinking water protection activities should first focus on maintaining the requirements of the Sanitary Survey (an inspection conducted every five years with the purpose of determining the physical condition of a water system's components and its capacity). Any spills from the potential contaminant sources listed in Table 1 of this report should be carefully monitored, as should any future development in the delineated areas. Disinfection practices should be employed if microbial contamination becomes a problem. Other practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water areas should be implemented. No chemicals should be stored or applied within the 50-foot radius of the wellhead. Since most of the designated areas are outside the direct jurisdiction of the Paul Housing Authority, partnerships with state and local agencies and industry groups should be established and are critical to success.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan as the delineation is near to urban and residential land uses. Public education topics could include proper lawn and garden care practices, household hazardous waste disposal methods, proper care and maintenance of septic systems, and the importance of water conservation. There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the U.S. EPA. There are transportation corridors near the delineation, therefore, the State Department of Transportation should be involved in protection activities. Drinking water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil Conservation District, and the Natural Resources Conservation Service.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting), or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Twin Falls Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR THE PAUL HOUSING AUTHORITY, PAUL, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the rankings of this assessment mean.** A map showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are attached. The list of significant potential contaminant source categories and their rankings, used to develop this assessment, is also attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the EPA to assess the over 2,900 public drinking water sources in Idaho for their relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area, sensitivity factors associated with the wells, and aquifer characteristics. All assessments must be completed by May of 2003. The resources and time available to accomplish assessments are limited. Therefore, an in-depth, site-specific investigation to identify each significant potential source of contamination for every public water system is not possible. **This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system.**

The ultimate goal of this assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The Idaho DEQ recognizes that pollution prevention activities generally require less time and money to implement than treating a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a drinking water protection program should be determined by the local community based on its own needs and limitations. Drinking water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The Paul Housing Authority well is a community well that serves approximately 250 people through approximately 80 connections. The well is located about 1/2 mile south of Highway 25 outside the city of Paul (Figure 1), and approximately 200 feet east of the Paul Housing Authority office. The drinking water system includes a hypochlorinator for disinfection (not used continuously), two Kinetico water softeners, and six 32-gallon hydropneumatic tanks for storage.

The current water chemistry issue that has been recorded in the public water system thus far is the detection of total coliform bacteria at the wellhead and in the distribution system in October 1995. Arsenic, fluoride, and nitrate were detected in water samples collected from the well at concentrations far below the current MCLs. No VOCs or SOCs have been detected in the wells. Countywide nitrogen fertilizer use, county level herbicide use, and total county level agricultural chemical use are rated as high for the area. Additionally, the delineation crosses a nitrate priority area.

Defining the Zones of Contribution – Delineation

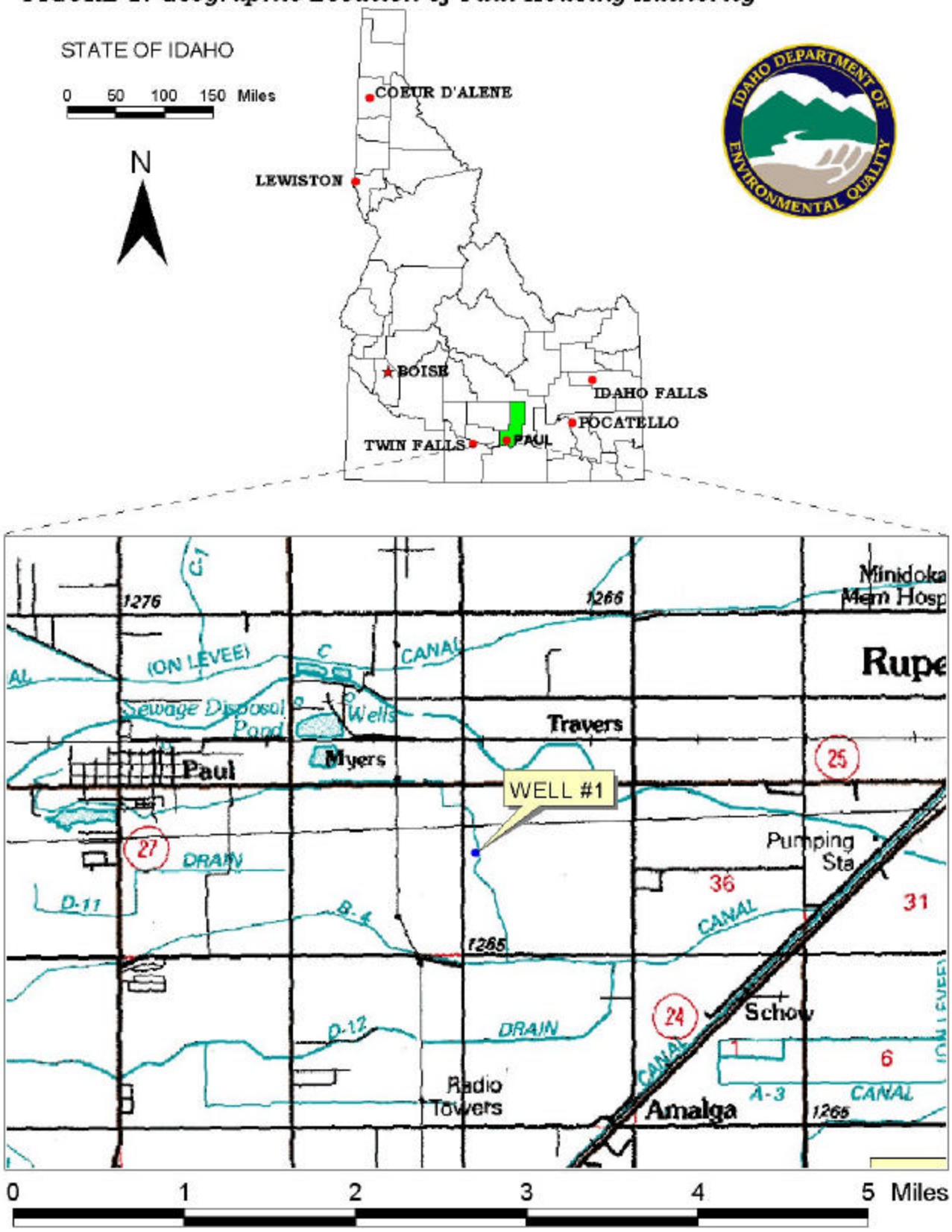
The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time-of-travel zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ performed the delineation using a refined analytical element computer model (WhAEM2000) approved by the EPA in determining the 3-year (Zone 1B), 6-year (Zone 2), and 10-year (Zone 3) TOT for water associated with the alluvial aquifer in the vicinity of the Paul Housing Authority. The computer model used site specific data, assimilated by DEQ from a variety of sources including the local area well logs and hydrogeologic reports (detailed below).

The Paul Housing Authority well lies within an alluvial aquifer region on the north side of the Snake River near Heyburn instead of in the predominant layered basalt regions. A thin layer (0 to 100 feet) of windblown and fluvial sediments overlies the basalt (Whitehead, 1992). These surface deposits are a series of unconsolidated clays, silts, sands, and gravels of alluvial or aeolian origin. They generally have a total thickness of 30 to 35 feet (Anderson and Kelley, 1986). These deposits thin to the north and eventually disappear approximately 10 miles north of the City of Paul where basalt occurs at land surface. A clay layer that prevents significant downward movement of water underlies the alluvial deposits. As such, water in this shallow aquifer tends to flow to the north where it eventually percolates downward to join with the regional southwesterly flow through the underlying basalt.

Annual average precipitation for the period 1951 to 1980 is 9.6 inches in both Twin Falls and Burley (Kjelstrom, 1995, p. 3). The estimated recharge from precipitation in the Southwest Margin ranges from less than 0.5 inch to more than 2 in./yr (Garabedian, 1992, p. 20). Kjelstrom (1995, p. 13) reports an annual river loss of 110,000 acre-feet to the aquifer for the 34.8-mile Minidoka-to-Milner reach of the Snake River. River gains of 210,000 acre-feet for the 21.5-mile Milner-to-Kimberly reach, and 880,000 acre-feet for the 20.4-mile Kimberly-to-Buhl reach are reported for the same period.

The delineated source water assessment area for the Paul Housing Authority can best be described as a pie-shaped corridor extending southward for approximately one mile and is approximately one-half mile wide (Figure 2). The actual data used by WGI and DEQ in determining the source water assessment delineation area is available from DEQ upon request.

FIGURE 1. Geographic Location of Paul Housing Authority



Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and the Paul Housing Authority and from available databases.

The dominant land use outside the Paul Housing Authority area is irrigated agriculture. Land use within the immediate area of the wellhead consists of residential property and agricultural land.

It is important to understand that a release may never occur from a potential source of contamination provided best management practices are used at the facility. Many potential sources of contamination are regulated at the federal level, state level, or both, to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination, such as educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A contaminant inventory of the study area was conducted in June and July of 2001. This involved identifying and documenting potential contaminant sources within the Paul Housing Authority Source Water Assessment Areas through the use of computer databases and Geographic Information System maps developed by DEQ.

The delineation (Table 1, Figure 2) of the well contains the B-4 Canal, a surface water that can contaminate the well via surface runoff.

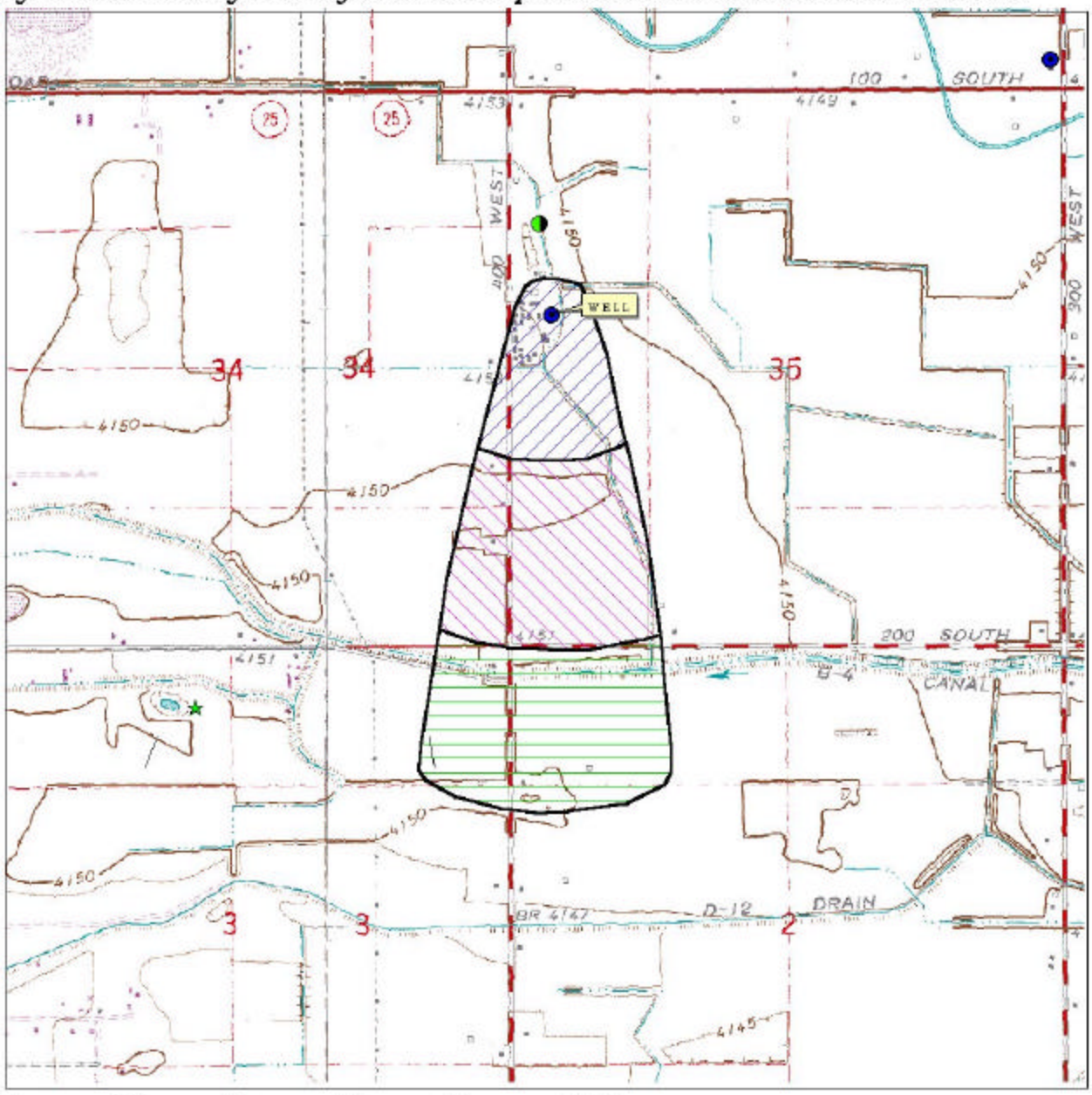
Table 1. Paul Housing Authority Well. Potential Contaminant Inventory.

Site	Source Description[1]	TOT[2] Zone	Source of Information	Potential Contaminants[3]
	B-4 Canal	6 – 10	GIS Map	IOC, VOC, SOC

[2] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead

[3] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Figure 2. Paul Housing Authority Delineation Map and Potential Contaminant Source Locations



Section 3. Susceptibility Analysis

The water system's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. Attachment A contains the susceptibility analysis worksheets. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

The hydrologic sensitivity of a well is dependent upon four factors: the surface soil composition, the material in the vadose zone (between the land surface and the water table), the depth to first ground water, and the presence of a 50-foot thick fine-grained zone above the producing zone of the well. Slowly draining soils such as silt and clay typically are more protective of ground water than coarse-grained soils such as sand and gravel. Similarly, fine-grained sediments in the subsurface and a water depth of more than 300 feet protect the ground water from contamination.

The hydrologic sensitivity was moderate for the well (Table 2). This reflects the poor to moderately drained nature of the soil, which can potentially reduce the downward migration of contaminants to the aquifer. The water table is shallow at about 16 feet below ground surface (bgs). The well log shows that the makeup of the vadose zone is mostly sand and gravel and that there are no thick fine-grained sediment layers to reduce downward movement of contaminants.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. System construction scores are reduced when information shows that potential contaminants will have a more difficult time reaching the intake of the well. Lower scores imply a system is less vulnerable to contamination. For example, if the well casing and annular seal both extend into a low permeability unit, then the possibility of contamination is reduced and the system construction score goes down. If the highest production interval is more than 100 feet below the water table, then the system is considered to have better buffering capacity. If the wellhead and surface seal are maintained to standards, as outlined in Sanitary Surveys, then contamination down the well bore is less likely. If the well is protected from surface flooding and is outside the 100-year floodplain, then contamination from surface events is reduced.

The Paul Housing Authority drinking water system consists of one well that extracts ground water for community uses. The well rated moderate susceptibility for system construction (Table 2). The 1999 Sanitary Survey found that the wellhead and surface seals were maintained and it is protected from surface flooding. The well, installed in 1971, consists of 0.250-inch thick, 8-inch casing set to 18 feet bgs into fine brown sand and gravel. The static water level is at 16 feet bgs. A well test was performed for 8.5 hours yielding 240 gallons per minute (gpm) and a drawdown of 11 feet. Though the Paul Housing Authority well may have met construction standards at the time of its installation, current well construction standards are stricter.

The Idaho Department of Water Resources *Well Construction Standards Rules* (1993) require all Public Water Systems (PWSs) to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works* (1997) during construction. Some of the requirements include casing thickness, well tests, and depth and formation type that the surface seal must be installed into. Table 1 of the *Recommended Standards for Water Works* (1997) lists the required steel casing thickness for various diameter wells. Eight-inch diameter wells require a casing thickness of at least 0.322-inches. Well tests are required at the design pumping rate for 24 hours or until stabilized drawdown has continued for at least six hours when pumping at 1.5 times the design pumping rate.

Potential Contaminant Source and Land Use

The well rated moderate for IOCs (e.g. arsenic, nitrate), VOCs (e.g. petroleum products), and SOCs (e.g. pesticides), and low for microbial contaminants (e.g. bacteria). The extensive irrigated agricultural land use of the area contributed to the final land use scores. County level nitrogen fertilizer use, county level herbicide use, and total county level ag-chemical use are rated as high for the well and the delineation crosses a nitrate priority area.

Final Susceptibility Rating

An IOC detection above a drinking water standard MCL, any detection of a VOC or SOC, or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well, no matter what the land use of the area is. A pathway for contamination already exists, automatically giving a high susceptibility rating. Additionally, the storage or application of any potential contaminants within 50 feet of the wellhead will lead to an automatic high score. In this case, total coliform bacteria were detected at the wellhead in October 1995, giving an automatic high susceptibility rating for microbial contaminants. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0- to 3-year time-of-travel zone (Zone 1B) and much agricultural land contribute greatly to the overall ranking. In terms of total susceptibility, the well rates high for microbial contaminants and moderate for IOCs, VOCs, and SOCs.

Table 2. Summary of the Paul Housing Authority Susceptibility Evaluation

Source	Susceptibility Scores[1]									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	Final Susceptibility Ranking			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Well #1	M	M	M	M	L	M	M	M	M	H*[2]

[1]H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical
[2] H* = Automatic high susceptibility rating due a detection of total coliform bacteria at the wellhead, in October 1995

Susceptibility Summary

In terms of total susceptibility, the well rated high for microbial contaminants and rated moderate for IOCs, VOCs, and SOCs. The detection of total coliform bacteria at the wellhead gave an automatic high susceptibility rating for microbial contaminants. The extensive irrigated agricultural land and the limited number of contaminants within the delineation contributed to the overall susceptibility of the well.

The current water chemistry issue that has been recorded in the public water system thus far is the detection of total coliform bacteria at the wellhead and in the distribution system in October 1995. Arsenic, fluoride, and nitrate were detected in water samples collected from the well at concentrations far below the current MCLs. No VOCs or SOCs have been detected in the well. Countywide nitrogen fertilizer use, county level herbicide use, and total county level agricultural chemical use are rated as high for the area. Additionally, the delineation crosses a nitrate priority area.

Section 4. Options for Drinking Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective drinking water protection program is tailored to the particular local drinking water protection area. A community with a fully developed drinking water protection program will incorporate many strategies, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). For the Paul Housing Authority, given the shallow depth of the well and the general flow of groundwater in the Magic valley, special protection measures may need to be considered. The protection planning process should include a system to rank the potential contaminants in the delineation area, documenting which contaminants are most critical. To better identify critical contaminant sources, the model used to delineate the area of the well can be revised accordingly. It may be possible to look to the northeast through the southeast to include Rupert and its surrounding canals to identify contaminant sources based on groundwater flow. The Twin Falls Department of Environmental Quality can provide information and assistance concerning these protection measures.

For further drinking water protection activities, one should also focus on maintaining the requirements of the Sanitary Survey. Any spills from the potential contaminant sources listed in Table 1 of this report should be carefully monitored, as should any future development in the delineated areas. Other practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water areas should be implemented. Also, the hypochlorinator should be employed if microbial contamination becomes a problem. No chemicals should be stored or applied within the 50-foot radius of the wellhead. Most of the designated areas are outside the direct jurisdiction of the Paul Housing Authority. Partnerships with state and local agencies and industry groups should be established and are critical to success.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water

protection plan as the delineation is near to urban and residential land uses. Public education topics could include proper lawn and garden care practices, household hazardous waste disposal methods, proper care and maintenance of septic systems, and the importance of water conservation to name but a few. There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the EPA. As there are transportation corridors near the delineation, the State Department of Transportation should be involved in protection activities. Drinking water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil Conservation District, and the Natural Resources Conservation Service.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Twin Falls Regional Office of the Idaho DEQ or the Idaho Rural Water Association.

Assistance

Public water suppliers and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Twin Falls Regional DEQ Office	(208) 736-2190
State DEQ Office	(208) 373-0502

Website: http://www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Melinda Harper, (mlharper@idahoruralwater.com) Idaho Rural Water Association, at (208) 343-7001 for assistance with drinking water protection (formerly wellhead protection) strategies.
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POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund≅ is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

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Attachment A

Paul Housing Authority Susceptibility Analysis Worksheet

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

Ground Water Susceptibility Report Public Water System Name : PAUL HOUSING AUTHORITY Well# : WELL

Public Water System Number 5340015 2/4/2002 9:13:48 AM

1. System Construction		SCORE				
Drill Date		5/10/1971				
Driller Log Available		YES				
Sanitary Survey (if yes, indicate date of last survey)		YES	1999			
Well meets IDWR construction standards		NO	1			
Wellhead and surface seal maintained		YES	0			
Casing and annular seal extend to low permeability unit		NO	2			
Highest production 100 feet below static water level		NO	1			
Well located outside the 100 year flood plain		YES	0			
	Total System Construction Score		4			
2. Hydrologic Sensitivity						
Soils are poorly to moderately drained		YES	0			
Vadose zone composed of gravel, fractured rock or unknown		YES	1			
Depth to first water > 300 feet		NO	1			
Aquitard present with > 50 feet cumulative thickness		NO	2			
	Total Hydrologic Score		4			
3. Potential Contaminant / Land Use - ZONE 1A			IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND		2	2	2	2
Farm chemical use high	YES		2	0	2	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES		NO	NO	NO	YES
	Total Potential Contaminant Source/Land Use Score - Zone 1A		4	2	4	2
Potential Contaminant / Land Use - ZONE 1B						
Contaminant sources present (Number of Sources)	NO		0	0	0	0
(Score = # Sources X 2) 8 Points Maximum			0	0	0	0
Sources of Class II or III leacheable contaminants or	YES		4	0	0	
4 Points Maximum			4	0	0	
Zone 1B contains or intercepts a Group 1 Area	YES		2	0	0	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land		4	4	4	4
	Total Potential Contaminant Source / Land Use Score - Zone 1B		10	4	4	4
Potential Contaminant / Land Use - ZONE II						
Contaminant Sources Present	NO		0	0	0	
Sources of Class II or III leacheable contaminants or	YES		1	0	0	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land		2	2	2	
	Potential Contaminant Source / Land Use Score - Zone II		3	2	2	0
Potential Contaminant / Land Use - ZONE III						
Contaminant Source Present	YES		1	1	1	
Sources of Class II or III leacheable contaminants or	YES		1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	YES		1	1	1	
	Total Potential Contaminant Source / Land Use Score - Zone III		3	3	3	0
Cumulative Potential Contaminant / Land Use Score			16	9	9	4
4. Final Susceptibility Source Score			11	10	10	10
5. Final Well Ranking			Moderate	Moderate	Moderate	High